

ABSTRACT

A method for forming a deep trench structure comprises the steps of providing a silicon
5 substrate; forming a mask layer of a predetermined pattern on the silicon substrate to expose a
portion of the silicon substrate; forming a first trench in the exposed portion of the silicon
substrate, the first trench having a first depth; forming a nitride layer on the surfaces of the
whole structure; forming a second trench in the first trench downward, the second trench
having a second depth greater than the first depth; forming another nitride layer on the
10 surfaces of the whole structure; and forming a third trench in the second trench downward, the
third trench having a third depth greater than the second depth. The method of the present
invention can make the whole trench have better etch uniformity, thereby obtaining good
electrical performance.